



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHEAST REGIONAL OFFICE
20 RIVERSIDE DRIVE, LAKEVILLE, MA 02347 508-946-2700

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

ARLEEN O'DONNELL
Acting Commissioner

April 26, 2007

Mr. Robert Bernardo
Seekonk Water District
P.O. Box 97, 50 Water Lane
Seekonk, MA 02771

RE: SEEKONK – WMA
PWS ID # 4265000
Water Management Act
Permit #9P-4-27-265.01

Dear Mr. Bernardo:

Attached please find:

- Findings of Fact in Support of Permit #9P-4-27-265.01, and
- WMA Permit #9P-4-27-265.01 for the Seekonk Water District.

The signature on this cover letter indicates formal issuance of the attached document.

If you have any questions regarding this information, please contact Allison Rescigno at (508) 946-2763 or via e-mail at Allison.Rescigno@state.ma.us.

Very truly yours,

Richard J. Rondeau, Chief
Drinking Water Program
Bureau of Resource Protection

ECC: Duane LeVangie, MassDEP
Ten-Mile River Watershed Alliance

CC: Board of Water Commissioners, Seekonk Water District
Seekonk Board of Selectmen

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Y:\DWP Archive\SERO\Seekonk-WMA-Permit-9P427265.01-2007-4-26

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

MassDEP on the World Wide Web: <http://www.mass.gov/dep>

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COMMUNICATION FOR NON-ENGLISH SPEAKING PARTIES (310 CMR 1.03(5)(A))

English

This document is important and should be translated immediately.

Spanish

Este documento es importante y se debe traducir inmediatamente.

Portuguese

Este original é importante e deve ser traduzido imediatamente.

Italian

Questo documento è importante e dovrebbe essere tradotto immediatamente.

Greek

Αυτό το έγγραφο είναι σημαντικό και πρέπει να μεταφραστεί αμέσως.

French

Ce document est important et devrait être traduit immédiatement.

Chinese (traditional)

這個文件重要和應該立刻被翻譯。
这个文件重要和应该立刻被翻译。

Findings of Fact in Support of Permit Issuance Water Management Permit # 9P-4-27-265.01

The Department of Environmental Protection (the Department) hereby issues the Seekonk Water District a modified permit to withdraw water in accordance with the Water Management Act, Massachusetts General Law (MGL) Chapter 21G.

This permit supersedes the previously amended WMA Permit #9P-4-27-265.01 issued to Seekonk Water District on October 21, 2003.

FINDINGS OF FACT

As required by MGL Chapter 21G, §11 and 310 CMR 36.00, the Department makes the following Findings of Fact in support of Seekonk Water District's modified permit and includes herewith its reasons for approving the permit and for imposing the conditions of approval.

The Water Management Act requires the Department to issue permits that balance a variety of factors including:

- Reasonable protection of existing water uses, land values, investments and enterprises;
- Reasonable conservation consistent with efficient water use;
- Reasonable protection of public drinking water supplies, water quality, wastewater treatment capacity, waste assimilation capacity, groundwater recharge areas, navigation, hydropower resources, water-based recreation, wetland habitat, fish and wildlife, agriculture, flood plains; and
- Reasonable economic development and job creation.

To achieve the balance of competing water uses mandated by the Act, the Department has adopted the *Water Management Policy For Permit and Permit Amendment Applications and 5-Year Reviews, Effective Date: April 2, 2004* (the Policy) and the *Guidance Document for Water Management Act Permitting Policy, Effective Date: January 17, 2006* (Guidance), which can be found at:

<http://www.mass.gov/dep/water/laws/policies.htm#wmgt>.

The Policy and Guidance identify the Performance Standards to be applied to new Water Management permits, and existing permits at the time they are modified or amended.

In applying the Performance Standards the Department relies upon the determinations of relative stress established in the Massachusetts Water Resources Commission (WRC) report, *Stressed Basins in Massachusetts* (approved December 13, 2001). The Department also reviews other available research, including reports by the United States Geological Society (USGS), the Department's Water Quality Assessment Reports and other pertinent reports available for specific river basins.

Seekonk Water District's sources are located in the Ten-Mile River Basin, which is an unassessed basin.

The map of stressed basins can be reviewed at:

<http://www.mass.gov/dep/water/laws/policies.htm#wmgt>

The Performance Standards for unassessed basins are:

1. Residential gallons per capita day water use (RGPCD) of 80 gallons or less;
2. Unaccounted-for water (UAW) of 15% or less.

The Department believes these standards are reasonable based on studies and data developed throughout the country, the 1996 AWWA Leak Detection and Water Accountability Committee report on water accountability (AWWA Journal; July 1996; pp. 108-111), and the fact that the 2005 average values for Massachusetts Public Water Suppliers were 71 RGPCD, and 11% UAW. Further, the Department believes that through effective water conservation and implementation of the WMA Permit conditions, Permittees may be able to reduce RGPCD below 80 gpd and UAW below 15%.

The Guidance provides implementation and enforcement guidelines, including:

- timelines for compliance with the Performance Standards;
- procedures and requirements for Permittees who fail to comply with the Performance Standards within those timelines.

Findings of Fact for Specific Permit Conditions

The Department has completed the 5-Year compliance review of Seekonk Water District's existing permit in the Ten-Mile River Basin. Seekonk Water District's WMA permit has been modified to incorporate the performance standards of the WMA policy. Additionally, based on review of the file and the result of wetlands inspections, the requirement for wetlands monitoring adjacent to both Newman Well #4 and McHale's Pond Well has been removed as a permit condition.

Special Conditions 1, Authorized Withdrawal Volumes: this permit authorizes Seekonk Water District withdraw 131.40 MGY (million gallons per year), or an average of 0.36 MGD (million gallons per day), for the period of March 2007 through November 30, 2011.

This permitted volume is in addition to Seekonk Water District's 1.35 mgd Registered volume.

Summary of Seekonk Water District's WMA Authorizations	
WMA Authorization	Volume Authorized
WMA Registration #4-27-265.02	1.35 MGD (492.75 MGY)
WMA Permit #9P2-4-27-265.01	0.36 MGD (131.40 MGY)
Total WMA Authorization	1.71 MGD (624.15 MGY)

In 2005, Seekonk Water District's average daily withdrawal from the Ten-Mile River Basin was 1.38 MGD.

Special Condition 2, Maximum Authorized Daily Withdrawal Volumes From Each Withdrawal Point: reflect the approved Zone II rates for each permitted well in the basin. Withdrawals in excess of these maximum daily rates require approval from the Department.

Special Condition 3, Zone of Contribution Delineations: notes the Department's approval of Seekonk Water District's Zone II delineations; no additional delineations are required as a condition of this permit.

Special Condition 4, Wellhead Protection: notes the approval of Seekonk Water District's wellhead protection program; no additional wellhead protection work is required as a condition of this permit.

Special Condition 5, Performance Standard for Residential Gallons Per Capita Day Water Use: as noted above, Seekonk Water District's standard for RGPCD is 80 gpd (gallons per day) or less. Seekonk Water District reported an RGPCD of 81 gpd for the year ending 2005.

Special Condition 6, Performance Standard for Unaccounted for Water: as noted above, Seekonk Water District's standard for UAW is 15% or less. See Water District reported an UAW of 4.2% for year ending 2005.

Special Condition 7, Water Conservation Requirements: incorporates the Water Conservation Standards for the Commonwealth of Massachusetts approved by the WRC in July 2006.

Special Condition 8, Requirement to Report Raw and Finished Water Volumes: ensures that the information necessary to evaluate compliance with the permit conditions is accurately reported.

Special Condition 9, General Permit Conditions: outlines the general conditions applicable to all WMA Permittees.

The Department's Findings of Fact and summary of Permit Conditions are not intended to, and should not be construed as, modifying any of the Permit conditions. In the event of any conflict or ambiguity between the Findings of Fact and the Permit, the Permit language shall control.



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**WATER WITHDRAWAL PERMIT
M.G.L. CH. 21G**

This permit is issued pursuant to the Massachusetts Water Management Act (the Act) for the sole purpose of authorizing the withdrawal of a volume of water as stated herein and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

PERMIT NUMBER: 9P-4-27-265.01 **BASIN:** Ten Mile River

PERMITTEE: Seekonk Water District
P. O. Box 97, 50 Water Lane
Seekonk, MA 02771

EFFECTIVE DATE: February 17, 1994
MODIFICATION DATE: February 21, 2007
EXPIRATION DATE: November 30, 2011

NUMBER OF WITHDRAWAL POINTS: 2
Groundwater: 2
Surface Water: 0

USE: Public Water Supply

DAYS OF OPERATIONS: 365

LOCATION(S): Table 1: Withdrawal Point Identification

Well Name	PWS Source ID Code
Newman Well #4	4265000-05G
McHale's Pond Well	4265000-06G

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD Service - 1-800-298-2207.

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SPECIAL PERMIT CONDITIONS

1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Seekonk Water District (Permittee) to withdraw water from the Ten Mile River Basin at the rate described below in Table 2. The volume reflected by this rate is in addition to the 1.35 million gallons per day previously authorized to the Seekonk Water District under Water Management Act Registration #4-27-265.01 for withdrawal from the Ten Mile River Basin. The permitted volume is expressed both as a daily average withdrawal volume (million gallons per day or MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each five-year period of the permit term.

The Department of Environmental Protection (the Department) bases these withdrawal volumes on the raw water withdrawn from authorized withdrawal points, and will use the raw water amount to assess compliance with the registered and permitted withdrawal volumes.

Table 2: Maximum Authorized Withdrawal Volumes

5-Year Periods		Total Raw Water Withdrawal Volumes			
		Permit		Permit + Registration	
		Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
Period One Years 2-5	2/17/1994 to 11/30/1996	0.15	54.75	1.50	547.50
Period Two Years 6-10	12/1/1996 to 11/30/2001	0.22	80.30	1.57	573.05
Period Three Years 11-15	12/1/2001 to 11/30/2006	0.29	105.85	1.64	598.60
Period Four Years 16-20	12/1/2006 to 11/30/2011	0.36	131.40	1.71*	624.15

**Volumes noted are in effect only if no change to registered volume occurs at the January 1, 2008 registration renewal date.*

2. Maximum Authorized Daily Withdrawal Volumes From Each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below without specific advance written approval from the Department. The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawals points exceed the withdrawal volumes authorized above in Special Condition 1.

Table 3: Maximum Daily Withdrawal Volumes

Well Name	PWS Source ID Code	Maximum Daily Rate (MGD)
Newman Well #4	4265000-05G	0.86
McHale's Pond Well	4265000-06G	0.60

3. Zone of Contribution Delineations

Department records show that Newman Well #4 and McHale's Pond Well have Zone II delineations that have been approved by the Department. Therefore, no further Zone II work is required as a condition of this permit.

4. Wellhead Protection

Department records indicate that the Seekonk Water District has developed land use controls and water supply protection measures meeting the requirements of 310 CMR 22.21(2). Department records show that the Town of Seekonk has adopted these requirements. The final text of the control measures and a copy of the Aquifer Protection District Map as adopted by town meeting have been submitted to the Department as a condition of this permit.

5. Performance Standard for Residential Gallons Per Capita Day Water Use

Seekonk Water District's performance standard for residential gallons per capita day (RGPCD) is 80 gallons. Seekonk Water District shall be in compliance with the performance standard by December 31, 2009. Seekonk Water District shall report its RGPCD water use annually in its Annual Statistical Report (ASR) and document compliance with this performance standard on its 2009 ASR and each year thereafter.

Seekonk Water District shall report its RGPCD and the calculation used to derive that figure as part of its ASR including, without limitation, the source of the data used to establish the service population and the year in which this data was developed.

See Appendix A for additional information on the requirements if the performance standard for RGPCD is not met.

6. Performance Standard for Unaccounted for Water

Seekonk Water District's performance standard for unaccounted for water (UAW) is 15% of overall water withdrawal. Seekonk Water District shall be in compliance with the performance standard by December 31, 2009. Seekonk Water District shall report its UAW annually in its ASR and document compliance with this performance standard on its 2009 ASR and each year thereafter.

Seekonk Water District shall report its UAW and the calculation used to drive that figure as part of its ASR.

See Appendix B for additional information on requirements if the performance standard for UAW is not met.

7. Water Conservation Requirements

At a minimum, Seekonk Water District shall implement the following conservation measures forthwith and shall be in compliance with these measures as outlined before **November 30, 2011**, the date of the next Review/Renewal of the permit. Compliance with the Water Conservation Requirements shall be reported to the Department upon request or by **November 30, 2011**, unless otherwise noted below.

TABLE 5

Water Conservation Requirements	
Water Audits and Leak Detection	
<ul style="list-style-type: none">At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 yrs from the date of last documented leak detection survey.Perform a leak detection survey of the entire distribution system within one year whenever the percentage of unaccounted for water increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, permit holder shall submit to the Department for its review a report detailing the leak detection survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.Conduct field surveys for leaks and repair programs in accordance with the <u>AWWA Manual 36</u>.Repair reports shall be kept available for inspection by the Department. The permit holder shall establish a schedule for repairing leaks that is at least as stringent as the following:	

Water Conservation Requirements	
<ol style="list-style-type: none"> 1) Leaks of 3 gallons per minute or more shall be repaired within 3 months of detection. 2) Leaks of less than 3 gallons per minute at hydrants and appurtenances shall be repaired as soon as possible. 3) Leaks of less than 3 gallons per minute shall be repaired in a timely manner, but in no event more than 6 months from detection, except that leaks in freeway, arterial or collector roadways shall be repaired when other roadwork is being performed on the roadway. <ul style="list-style-type: none"> • Leaks shall be repaired in accordance with the permit holder's priority schedule including leaks up to the property line, curb stop or service meter, as applicable. The Town shall have water use regulations in place that require property owners to expeditiously repair leaks on their property. 	
Metering	
<ul style="list-style-type: none"> • Calibrate all source and finished water meters annually and report date of calibration on the ASR. 	
<ul style="list-style-type: none"> • 100% metering of the system is required. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards as set forth in <u>AWWA Manual M6 – Water Meters</u>, by the permit renewal date. 	
<ul style="list-style-type: none"> • Maintain an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections. The plan shall continue to include placement of sufficient funds in the system's annual water budget to calibrate, repair, or replace meters as necessary. 	
<ul style="list-style-type: none"> • Establish a water pricing structure that includes the full cost of operating the water supply system by the next permit renewal date. Evaluate rates every three to five years and adjust costs as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into prices. 	
<ul style="list-style-type: none"> • Decreasing block rates which charge lower prices as water use increases during the billing period, are not allowed by M.G.L. Chapter 40 Section 39L. 	
Residential and Public Sector Conservation	
<ul style="list-style-type: none"> • All standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code shall be met. 	
<ul style="list-style-type: none"> • Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction. 	
<ul style="list-style-type: none"> • Municipal buildings: <ol style="list-style-type: none"> 1) By January 1, 2008, submit to the Department a status report detailing which municipally owned public buildings in the service area have been retrofitted with water saving devices (faucet aerators, low flow shower heads and low flow toilets) and which of those buildings have yet to be retrofitted, along with a schedule to complete the retrofitting by January 1, 2012. 2) By January 1, 2012, ensure that all municipally owned public buildings in the service area are retrofitted. <p>NOTE: Municipally owned public buildings that may be scheduled for rehab or demolition after January 1, 2012, may, with the Department's approval, be exempted from this condition based on the schedule of work. Status report required above should identify those buildings and schedule for repairs/demolition.</p>	
Industrial and Commercial Water Conservation	
<ul style="list-style-type: none"> • Review the use records for industrial, commercial and institutional water users and develop an inventory of the largest water users <i>and</i> develop and implement an outreach program designed to inform and (where appropriate) work with its largest industrial, commercial and institutional water users on ways to reduce their water use by the next <i>permit</i> review/renewal date. Such outreach plans can include, but are not limited to: information on water audits, meter sizing, water reuse, low-flow plumbing fixtures, mandatory outdoor water use restrictions, suggestions for contacting trade associations for process-specific information on water use reductions, and information on contacting the Executive Office of Environmental Affairs Office of Technical Assistance for Toxics Use Reduction (OTA) which offers a range of assistance and information to help facilities improve water use efficiency and reduce wastewater discharge. OTA can be contacted at (617) 626-1060 or at www.mass.gov/envir/ota. 	
<ul style="list-style-type: none"> • Upon request by the Department, the permit holder shall report on industrial, commercial and institutional water conservation including the results of its review of water use records for industrial, commercial and institutional water users, the inventory of the largest water users, copies of any outreach materials distributed to industrial, commercial and institutional water users, and to the extent practical, a summary of water use reductions or savings that have resulted. Upon receipt of this report, 	

Water Conservation Requirements	
the Department will take whatever action it deems appropriate to promote the interests of the Water Management Act, including requiring additional actions of the permit holder to reduce industrial, commercial and institutional water use.	
Lawn and Landscape	
<ul style="list-style-type: none">• Permit holder has the authority through a water use restriction bylaw, ordinance or regulation to implement and enforce water use restrictions as necessary.	
Public Education and Outreach	
<ul style="list-style-type: none">• Develop and implement a Water Conservation Education Plan designed to educate water customers of ways to conserve water. The plan may include the following actions:<ol style="list-style-type: none">1) Include in bill stuffers and/or bills, a work sheet to enable customers to track water use and conservation efforts and estimate the dollar savings;2) Public space advertising/media stories on successes (and failures);3) Conservation information centers perhaps run jointly with electric or gas company;4) Speakers for community organizations;5) Public service announcements; radio/T.V./audio-visual presentations;6) Joint advertising with hardware stores to promote conservation devices;7) Use of civic and professional organization resources;8) Special events such as Conservation Fairs;9) Develop materials that are targeted to schools with media that appeals to children, including materials on water resource projects and field trips; and• Make multilingual materials available as needed.	
<ul style="list-style-type: none">• Upon request of the Department, report on public education and outreach effort, including a summary of activities developed for specific target audiences, any events or activities sponsored to promote water conservation and copies of written materials.	

8. Requirement to Report Raw and Finished Water Volumes

Seekonk shall report annually on its ASR, the raw water volumes for individual water withdrawal points.

GENERAL PERMIT CONDITIONS (applicable to all Permittees)

No withdrawal in excess of 100,000 gallons per day over the registered volume (if any) shall be made following the expiration of this permit, unless before that date the Department has received a renewal permit application pursuant to 310 CMR 36.00.

1. **Duty to Comply** The permittee shall comply at all times with the terms and conditions of this permit, the Act and all applicable State and Federal statutes and regulations.
2. **Operation and Maintenance** The permittee shall at all times properly operate and maintain all facilities and equipment installed or used to withdraw water so as not to impair the purposes and interests of the Act.
3. **Entry and Inspections** The permittee or the permittee's agent shall allow personnel or authorized agents or employees of the Department to enter and examine any property for the purpose of determining compliance with this permit, the Act or the regulations published pursuant thereto, upon presentation of proper identification and an oral statement of purpose.
4. **Water Emergency** Withdrawal volumes authorized by this permit are subject to restriction in any water emergency declared by the Department pursuant to MGL c 21G ss 15-17, MGL c 150 ss 111, or any other enabling authority.
5. **Transfer of Permits** This permit shall not be transferred in whole or in part unless and until the Department approves such transfer in writing, pursuant to a transfer application on forms provided by the Department requesting such approval and received by the Department at least thirty (30) days before the effective date of the proposed transfer. No transfer application shall be deemed filed unless it is accompanied by the applicable transfer fee established by 310 CMR 36.37.
6. **Duty to Report** The permittee shall complete and submit annually, on a form provided by the Department, all of the information required by said form including, without limitation, a certified statement of the withdrawal. Such report shall be received by the Department by the date specified on the form each year. Such report must be mailed or hand delivered to:

Department of Environmental Protection
Drinking Water Program
Water Management Program
One Winter Street, 5th Floor
Boston, MA 02108

7. **Duty to Maintain Records** The permittee shall maintain withdrawal records and other information in sufficient detail to demonstrate compliance with this permit.
8. **Metering** All withdrawal points included within the permit shall be metered within one year of the date of issuance of the permit. Meters shall be maintained and replaced as necessary to ensure the accuracy of the withdrawal records.

APPEAL RIGHTS AND TIME LIMITS

This permit is a decision of the Department. Any person aggrieved by this decision may request an adjudicatory hearing under the provisions of MGL c 30A. Any such request must be made in writing, by certified mail and received by the Department within twenty-one (21) days of the date of receipt of this permit. No request for an appeal of this permit shall be validly filed unless a copy of the request is sent by certified mail or delivered by hand to the local water resources management official in the city or town in which the withdrawal point(s) is located; and for any person appealing this decision, who is not the applicant, unless such person notifies the permit applicant of the appeal in writing by certified mail or by hand within five (5) days of mailing the appeal to the Department.

CONTENTS OF HEARING REQUEST

310 CMR 1.01(6)(b) requires the request to include a clear and concise statement of the facts which are the grounds for the request and the relief sought. In addition, the request must include a statement of the reasons why the decision of the Department is not consistent with applicable rules and regulations, and for any person appealing this decision who is not the applicant, a clear and concise statement of how that person is aggrieved by the issuance of this permit.

FILING FEE AND ADDRESS

The hearing request, together with a valid check, payable to the Commonwealth of Massachusetts in the amount of \$100 must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request shall be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below.

EXEMPTIONS

The filing fee is not required if the appellant is a city or town (or municipal agency), county, district of the Commonwealth of Massachusetts, or a municipal housing authority.

WAIVER

The Department may waive the adjudicatory hearing filing fee for any person who demonstrates to the satisfaction of the Department that the fee will create an undue financial hardship. A person, seeking a waiver must file, together with the hearing request, an affidavit setting forth the facts, which support the claim of undue hardship.

Appendix A – Residential Gallons Per Capita Day

I. Compliance Plan Requirement

If Seekonk Water District fails to document compliance with the RGPCD performance standard in its 2009 ASR, or in any ASR thereafter, then Seekonk Water District must file with that ASR a Residential Gallons Per Capita Day Compliance Plan (RGPCD Plan) which shall:

- a) meet the requirement set forth below in Section II;
- b) include measures to be implemented to meet the performance standard; and
- c) include the schedule for implementing such measures.

The filing of an RGPCD Plan shall not constitute a return to compliance, nor shall it affect the Department's authority to take action in response to Seekonk Water District's failure to meet the performance standard.

If an RGPCD Plan is required, Seekonk Water District must:

- a) submit information and supporting documentation sufficient to demonstrate compliance with its RGPCD Plan annually at the time it files its ASR; and
- b) continue to implement the RGPCD Plan until it complies with the performance standard and such compliance is documented in Seekonk Water District's ASR for the calendar year in which the standard is met.

II. Contents of a Residential Gallons Per Capita Day Compliance Plan

At a minimum, all RGPCD Compliance Plans must include a detailed:

- a) description of the actions taken during the prior calendar year to meet the performance standard;
- b) analysis of the cause of the failure to meet the performance standard;
- c) description and schedule of the actions that will be taken to meet the performance standard; and
- d) analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

RGPCD Plans may be amended to revise the actions that will be taken to meet the performance standard. Amended RGPCD Plans must include the information set forth in paragraph above.

At a minimum, all RGPCD Plans for failure to meet the RGPCD performance standard must include implementation of at least one of the following residential conservation programs:

- a) a program that provides water saving devices such as faucet aerators and low flow shower heads at cost;
- b) a program that provides rebates or other incentives for the purchase of low water use appliances (washing machines, dishwashers, and toilets); or
- c) the adoption and enforcement of an ordinance, bylaw or regulation to require the installation of moisture sensors or similar climate related control technology on all automatic irrigation systems.

If Seekonk Water District is already implementing one or more of these programs, it must include in its RGPCD Plan the continued implementation of such program(s), as well as implementation of at least one additional program. All programs must include a public information component designed to inform customers of the program and to encourage participation in the program.

Without limitation, RGPCD Plans for failure to meet the RGPCD performance standard may include the following actions in addition to those outlined in the paragraph above:

- a) the use of an increasing block water rate or a seasonal water rate structure as a tool to encourage water conservation;
- b) climate related control technology on automatic irrigation systems;
- c) the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction include water saving devices and low water use appliances;

- d) the adoption and enforcement of an ordinance, bylaw or regulation to require that all new construction minimize lawn area and/or irrigated lawn area, maximize the use of drought resistant landscaping, and maximize the use of top soil with a high water retention rate;
- e) the implementation of a program to encourage the use of cisterns or rain barrels for outside watering; and,
- f) the implementation of monthly or quarterly billing.

Appendix B – Unaccounted for Water

UAW is defined as the residual resulting from the total amount of water supplied to a distribution system as measured by master meters, minus the sum of all amounts of water measured by consumption meters in the distribution systems, and minus confidently estimated and documented amounts used for certain necessary purposes.

Examples of UAW include, but are not limited to: leakage, meter inaccuracies (unless they fall under the category of adjustment per results of source meter calibration described in the ASR), errors in estimation of stopped meters, unauthorized hydrant openings, illegal connections, data processing errors, and undocumented fire fighting uses.

Examples of uses that can be confidently estimated and documented in writing include storage tank overflow and drainage; water main flushing and flow testing; fire fighting; bleeding or blow-offs; sewer and storm water system flushing; and cleaning and street cleaning. Generally, leakage is considered to be UAW, however, individual water main breaks can be discounted on a case-by-case basis. Any adjustment in the calculation of UAW made as a result of confidently estimated uses, shall be documented as required in the ASR.

I. Compliance Plan Requirement

If Seekonk Water District fails to document compliance with the UAW performance standard in its 2009 ASR or in any ASR thereafter, then Seekonk Water District must file with that ASR an Unaccounted for Water Compliance Plan (UAW Plan) which shall:

- a) meet the requirements set forth below in Section II;
- b) include measures to be implemented to meet the performance standard; and
- c) include the schedule for implementing such measures.

The filing of a UAW Plan shall not constitute a return to compliance, nor shall it affect the Department's authority to take action in response to Seekonk Water District's failure to meet the performance standard.

If a UAW Plan is required, Seekonk Water District must:

- a) submit information and supporting documentation sufficient to demonstrate compliance with its UAW Plan annually at the time it files its ASR; and
- b) continue to implement the UAW Plan until it complies with the performance standard and such compliance is documented in Seekonk Water District's ASR for the calendar year in which the standard is met.

II. Contents of an Unaccounted for Water Compliance Plan

Seekonk Water District has the choice to file a UAW Plan with measures tailored to the specific needs of its water supply system (Individualized UAW Plan) or a UAW Plan that includes Best Management Practices (BMP UAW Plan).

At a minimum, all UAW Plans must include a detailed:

- a) description of the actions taken during the prior calendar year to meet the applicable performance standard;
- b) analysis of the cause of the failure to meet the performance standard;
- c) description and schedule of the actions that will be taken to meet the performance standard; and
- d) analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

UAW Plans may be amended to revise the actions that will be taken to meet the performance standard. Amended UAW Plans must include the information set forth in the paragraph above.

Individualized UAW Compliance Plan

Without limitation, Individualized UAW Compliance Plans for failure to meet the UAW performance standard may include any of the actions set forth in the BMP UAW Compliance Plan below.

BMP UAW Compliance Plan

At a minimum, all BMP UAW Plans for failure to meet the UAW performance standard must include all of the following actions:

- a) within one year of filing the UAW Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to the Department;
- b) within one year of completing the audit and leak detection survey, conduct sufficient repairs to reduce by 75% (by water volume) all leaks detected in the survey;
- c) within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to bring permittee's UAW into compliance;
- d) implementation of a program that ensures the inspection and evaluation of all water meters and, as appropriate, the repair, replacement and calibration of water meters in accordance with the following schedule:
 - Large Meters (2" or greater) - within one year of filing the BMP UAW Plan
 - Medium Meters (1" or greater and less than 2") - within two years of filing the BMP UAW Plan
 - Small Meters (less than 1") - by the next permit review/renewal date;
- e) implementation of monthly or quarterly billing by the next permit review/renewal date; and
- f) within one year of filing the UAW Plan, implementation of a water pricing structure that achieves sufficient revenues to pay the full cost of operating the system including, without limitation, the costs of repairs under paragraph a., the costs of meter repairs, replacements and calibrations under paragraph b., the costs of employees and equipment, and ongoing maintenance and capital costs.